

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 October 2002 (17.10.2002)

PCT

(10) International Publication Number
WO 02/082212 A2

- (51) International Patent Classification⁷: **G06F**
- (21) International Application Number: PCT/US02/10308
- (22) International Filing Date: 3 April 2002 (03.04.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/280,737 3 April 2001 (03.04.2001) US
- (71) Applicant (for all designated States except US): **UNITED STATES POSTAL SERVICE** [US/US]: 475 L'Enfant Plaza, S.W., Washington, DC 20260-1135 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KUEBERT, Edward, J.** [Stateless/US]: 7438 Cedard Run Drive, Warrenton, VA 20187-2248 (US). **PENSABENE, Phillip, A.** [US/US]: 3801 Hollyberry Drive, Huntingtown, MD 20369-4304 (US). **PENN, Maria, C.** [US/US]: 13 East Windsor Avenue, Alexandria, VA 22301 (US). **RAY, Christine, R., L.** [US/US]: 2019 34th Street, S.E., Washington, DC 20020 (US).
- (74) Agents: **GARRETT, Arthur, S. et al.**: Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., 1300 I Street, N.W., Washington, DC 20005-3315 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 02/082212 A2

Best Available Copy

(54) Title: SYSTEMS AND METHODS FOR CAPTURING MAIL FOR ELECTRONIC BILL PRESENTMENT

(57) Abstract: A system and method of identifying a mailpiece in an electronic bill presentment system is provided. The system identifies the mailpiece based on an identification mark. The system sorts the mailpiece based on the identification mark.

BEST AVAILABLE COPY

SYSTEMS AND METHODS FOR CAPTURING MAIL FOR ELECTRONIC BILL PRESENTMENT

DESCRIPTION

Cross-Reference to Related Applications

[001] This application is based upon and claims the benefit of priority from United States Provisional Application No. 60/280,737 by Edward J. Kuebert et al., filed April 3, 2001, the contents of which are expressly incorporated herein by reference.

Technical Field

[002] The present invention deals with electronic bill presentment.

Background

[003] Currently, a customer receives bills from a biller through standard mail systems. Examples of billers include credit card companies, utilities, banks, and other entities for which a customer receives a service which requires billing. The customer receives a bill, usually monthly, from the biller and remits payment to the biller through the mail system. Each customer needs to spend a significant amount of time each month to respond to the various bills. The most common method of bill payment is to write paper checks for the appropriate amounts and mail such checks to the biller. This method is labor intensive and time consuming for the customer, and must be done on multiple occasions each month since the bills do not normally arrive or become due on the same date.

[004] Electronic bill presentment is a process for providing a customer with a bill electronically. Electronic bill presentment permits a customer to view and pay their bills electronically, for example, over the Internet. Figure 1 illustrates a conventional electronic bill presentment system. In this system, a customer, located at terminal 110, wishes to pay

bills electronically. Terminal 110 may be, for example, a personal computer connected to network 120. The customer registers with a biller located at biller terminal 130. The registration may comprise, for example, transmitting, to the biller terminal, customer information such as customer name and account information. Once the biller terminal receives and verifies the customer information, the biller will transmit the customer's bill by the electronic bill presentment methods. For example, the biller may transmit the bill to the customer via email each month. This is achieved by transmitting the email from biller terminal 130 through network 120 to customer terminal 110. Once the customer receives the email containing the bill, the customer may pay the bill by conventional mail or electronic means.

[005] Some billers currently offer this service, but if a customer wants to have bills of different biller presented electronically, the customer must register with each biller separately. However, a customer may want to view and pay all of their bills in a single location, rather than registering with each biller. Additionally, not all billers presently have the ability to implement electronic bill presentation methodology. Further, even billers that implement electronic bill presentation often still send bills by mail in addition to electronically.

SUMMARY OF THE INVENTION

[006] In accordance with the invention, there is provided a bill presentation method and system. The present invention involves several aspects which include a variety of different levels of biller interaction. One aspect is directed to a bill presentation method and system in which the customer is directly involved with the intermediary but requires no interaction with the biller. Another aspect is directed to a bill presentation in which the biller and the customer are directly involved with the intermediary.

[007] Additional advantages of the invention will be set forth in part in the description which follows, and in part will be obvious from the description, or may be learned by practice of the invention. The objects and advantages

of the invention will be realized and attained by means of the elements and combinations particularly pointed out in the appended claims.

[008] It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention, as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[009] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate aspects consistent with the present invention and together with the description, serve to explain the principles of the invention.

[010] Figure 1 is a diagram of a conventional electronic bill presentment system;

[011] Figure 2 is a flow chart illustrating a bill presentment method according to a first aspect consistent with the present invention;

[012] Figures 3 and 4 are flow charts illustrating a bill presentment method according to variations in the first aspect consistent with the present invention;

[013] Figures 5-8 are examples of different types of facing identification marks according to certain aspects consistent with the present invention;

[014] Figure 9 is a flow chart illustrating a bill presentment method according to a second aspect consistent with the present invention;

[015] Figure 10 is a diagram of a system for performing different aspects of the present invention.

DESCRIPTION OF THE EMBODIMENTS

[016] Reference will now be made in detail to aspects consistent with the present invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers will be used throughout the drawings to refer to the same or like parts.

[017] The present invention is directed to a bill presentation method and system which serves improve on conventional bill presentation systems and methods. The disclosed system works by a intermediary intercepting correspondence which is intended for customers. The intermediary may be a department of a mail service provider or a separate commercial entity. The intermediary determines if any of the correspondence consists of bills related to a certain customer, removes the bills from other correspondence, and flags the bills for electronic bill presentment. The disclosed system involves several aspects which include a variety of different levels of biller interaction. One aspect is directed to a bill presentation method and system in which the customer is directly involved with the intermediary but requires no interaction with the biller. Another aspect is directed to a bill presentation in which the biller and the customer are directly involved with the intermediary.

[018] A first aspect is directed to a bill presentation method and system in which the customer is directly involved with the intermediary but requires no interaction with the biller. In this aspect, the customer would deal directly with the intermediary and would have no additional interaction with the biller.

[019] Figure 2 is a flow chart illustrating a method of capturing mail for electronic bill presentment according to the first aspect consistent with the present invention. The process begins by the customer submitting a registration form to the intermediary including customer identification information and biller information. The biller information may be in the form of sample mailpieces used by the biller to send the bills (step 210). The customer identification information may contain standard information, such as customer name, customer address, customer personal information, email address, types of bills for electronic presentment, and method of electronic presentment. One skilled in the art would realize the form may contain other data used to identify and describe the customer. The form may be a standard paper form which may be forwarded to the intermediary by standard mail systems or the form may be an electronic form submitted to the intermediary by electronic means, such as electronic mail.

[020] Next, the intermediary would enter that customer's information into a database maintained by the intermediary (step 220). The database may be a standard database, such as a database stored on a computer. Next, the intermediary images the sample mailpiece for a particular biller which was provided by the customer and stores the imaged mailpiece in the database (step 230).

[021] Then, when a mailpiece is received by the intermediary, the intermediary processes the mailpiece and determines the delivery address of the mailpiece (step 240). If that mailpiece is addressed to a customer which has information stored in the database, the intermediary performs form recognition or optical character recognition (OCR) of the mailpiece (step 250). If the mailpiece is not addressed to a customer with information stored in the database, the mailpiece is processed normally (step 270).

[022] If the mailpiece is determined to match a biller's sample mailpiece stored in the database, the mailpiece is a bill designated by the customer for electronic bill presentation. Thus, that mailpiece is flagged for electronic bill presentment (step 260). This may involve sorting the mailpiece into a special bin for expedited delivery to a bill presentment center or may involve redirecting the mailpiece to the normal bin that includes delivery to a bill presentment center. Then, the flagged mailpiece is delivered to the bill presentment center.

[023] Figure 3 is a flow chart illustrating the steps involved in a variation of the first aspect. In this case, the customer has already established service with the intermediary and is now changing addresses. The customer changes delivery address for specific mailpiece by submitting a change of address form to the intermediary and biller (step 310). The biller would not necessarily know whether the customer has moved to this new location or not. All the biller knows is, instead of the customer receiving mail at one address, the customer receives it at another address. The intermediary updates the database by entering the customer's change of address (step 320).

[024] The rest of the steps work the same as the method described in Figure 2. That is, when a mailpiece is received by the intermediary, the intermediary processes the mailpiece and determines the delivery address of the mailpiece (step 330). If that mailpiece is addressed to a customer which has information stored in the database, the intermediary performs form recognition or optical character recognition (OCR) of the mailpiece (step 340). If the mailpiece is not addressed to a customer with information stored in the database, the mailpiece is processed normally (step 360).

[025] If the mailpiece is determined to match a biller's sample mailpiece stored in the database, the mailpiece is a bill designated by the customer for electronic bill presentation. Thus, that mailpiece is flagged for electronic bill presentment (step 350). This may involve sorting the mailpiece into a special bin for expedited delivery to a bill presentment center or may involve redirecting the mailpiece to the normal bin that includes delivery to a bill presentment center. Then, the flagged mailpiece is delivered to the bill presentment center.

[026] Figure 4 is a flow chart illustrating another variation of the first aspect. In this case, the customer would specify all mail to be redirected, not just bills from billers. This method is similar to the method illustrated in Figure 2. The process begins by the customer submitting a registration form to the intermediary, along with sample mailpieces used by the biller to send the bills (step 410). The form would contain standard information, such as customer name, customer address, customer personal information, email address, types of bills for electronic presentation, and method of electronic presentation. One skilled in the art would realize the form may contain other data used to identify and describe the customer. Plus, in this variation, the form would include instructions for dealing with mail which is not mail flagged for electronic bill presentment. The form may be a standard paper form which may be forwarded to the intermediary, or the form may be an electronic form submitted to the intermediary by electronic means, such as email.

[027] Next, the intermediary would enter that customer's information into a database maintained by the intermediary (step 420). The database

may be a standard database, such as a database stored on a computer. Next, the intermediary images the sample mailpiece for a particular biller which was provided by the customer and stores the imaged mailpiece in the database (step 430).

[028] Then, when a mailpiece arrives, the intermediary processes the mailpiece and determines the delivery address of the mailpiece (step 440). If that mailpiece matches any information contained in the database, the intermediary performs form recognition or optical character recognition (OCR) of the mailpiece (step 450). If the mailpiece is not addressed to a customer with information stored in the database, the mailpiece is processed normally (step 480).

[029] If the mailpiece is determined to match the imaged sample mailpiece contained in the database in step 440, the mailpiece is a bill designated by the customer for electronic bill presentation. Thus, that mailpiece is flagged for electronic bill presentment (step 460). This may involve sorting the mailpiece into a special bin for expedited delivery to a bill presentment center or may involve redirecting the mailpiece to the normal bin that includes delivery to a bill presentment center. Then, the flagged mailpiece is delivered to the bill presentment center. Additionally, if the mailpiece does not match the imaged sample mailpiece stored in the database, the mailpiece is flagged to be dealt with as specified by the customer (step 470).

[030] This aspect functions like a mail concierge service. A customer can specify to the intermediary how to deal with all mail addressed to the customer.

[031] A second aspect consistent with the present invention involves both the customer and the biller. In this aspect, the customer and the biller, when the customer opts in, use specially marked or encoded mailpieces or address inserts to identify mailpieces to be captured during processing. For example, the marked or encoded mailpieces may include facing identification marks (FIM) marks, POSTNET codes or PLANET™ codes (special bar codes), information based indicia (IBI) marks, or any other recognition marks

for OCR pick up or other identification means, such as remote bar codes (RBCs) or a semi-visible barcode on back, or radio frequency ID (RFID) tags. The FIMs, PLANET™ codes, IBIP or other recognition marks may be on the mailpieces or on the insert (e.g., in a window-type mailpiece situation), and may exist jointly or singly. When the mailpiece is received by the intermediary, upon scanning the mark identifying the mailpiece as a piece involved in a bill presentment, that mailpiece would be captured for electronic bill presentment. However, in this aspect, if the identifying mark is present, it is not required that the mailpiece be scanned to determine if it matches a sample mailpiece. Whatever the identification mark, the mark would identify the participating customer and it may also have information identifying redirected mailpiece.

[032] Figure 5 illustrates both PLANET™ and POSTNET codes, types of barcodes currently used by the United States Postal Service. In this example, a POSTNET code 510 is located both in the delivery address window, and at the bottom of the mailpiece. A PLANET™ code 520 is located in the return address window, in this example. A POSTNET code contains the numerical information that is normally equivalent to a delivery point or delivery address. The PLANET™ code contains an identification mark equating to the 2 digit identification mark which describes the type of information contained in that PLANET™ code.

[033] IBI markings are computer readable indicia that may store various information, such as whether a mailpiece is designated for electronic bill presentment, to whom the mailpiece should be redirected, and other delivery or customer information. Figures 6-8 illustrate various types of IBI markings (see, for example, reference numerals 600, 700, and 800).

[034] Other types of codes or markings include RFID and RBC. The RFID is a tag imprinted into the mailpiece that is read by a radio frequency reader. The RFID emits a radio frequency signal which is read by the radio frequency reader. An RBC is a fluorescent bar code normally printed on the back of the mailpiece.

[035] Figure 9 is a flow chart illustrating a method of capturing mail for electronic bill presentment according to a second aspect. The method begins by the customer submitting a registration form to the intermediary along with sample mailpieces used to send the bill from a particular biller (step 910). The form may contain standard information, such as customer name, customer address, customer personal information, email address, types of bills for electronic presentation, and method of electronic presentation. One skilled in the art would realize the form may contain other data used to identify and describe the customer. Plus, the form may include instructions for dealing with mailpieces which is not mailpieces for electronic bill presentment. The form may be a standard paper form which would be forwarded to the intermediary or the form may be an electronic form submitted to the intermediary by electronic means.

[036] Next, the intermediary enters that customer's information into a database maintained by the intermediary (step 920). The database may be a standard database, such as a database stored on a computer. Next, the intermediary images the sample mailpiece for a particular biller which was provided by the customer and stores the imaged sample mailpiece in the database (step 930).

[037] Then, the mailpiece is scanned (step 940) for special identifying marks. If there are no identification marks, the delivery address of the mailpiece is determined (step 970). If it is determined that special identification marks are present, such as POSTNET codes, PLANET™ codes, or RFID (step 950), the mailpiece is flagged for electronic bill presentment (step 960). This may involve sorting the mailpiece into a special bin for expedited delivery to a bill presentment center or may involve redirecting the mailpiece to the normal bin that includes delivery to a bill presentment center. Then, the flagged mailpiece is delivered to the bill presentment center.

[038] If, however, the piece does not have a special identification mark, the intermediary determines if the scanned delivery address is in a database (step 970). If not, the mailpiece is processed normally (step 990). If the delivery address does match, an image of the mailpiece is obtained, and a

comparison is made between the mailpiece image and the image of the sample mailpiece stored in the database (step 980). If there is a match (e.g., the mailpiece is a bill), the mailpiece is processed and flagged for electronic bill presentment (step 960); otherwise, the mailpiece is processed normally (step 990).

[039] One variation of the second aspect may allow an mailpiece with one human readable address, plus an identification mark to direct the mailpiece to a different address, such as the bill presentment center. This allows completely automatic mailpiece processing because the bill is directly addressed to the bill presentment center.

[040] In both aspects, the bill presentment center is located remotely (or is subcontracted) from the system identifying the bills. Once mailpiece identified as a bill has been flagged and sorted, this mailpiece is transferred to the bill presentment center. Alternatively, the bill presentment center may be located in the same place a the system identifying the bills. This alternative requires identifying the mailpiece locally, keeping the mail locally, and preparing the bills for electronic bill presentment.

[041] As for bill presentment, once a mailpiece containing a recognition mark is flagged, or alternatively, when an mailpiece has been recognized, the mailpiece is sorted. Conceivably, at that point, there are several different methods by which the flagged mailpieces may be dealt with. One option is that any of the flagged pieces of mailpieces identified as requiring forwarding to a bill presentment center may be packaged up and physically delivered by express delivery service to the bill presentment center. This is an expedited sortation and delivery method, which would permit the mailpiece to get more quickly to the bill presentment center and allow faster electronic bill presentment. In the intercepting and expedited service, which is only an option for electronic bill presentment, both the biller and the customer would have quicker accessibility to the funds or to the payment opportunity.

[042] Another option is for the mailpiece to be sent to the bill presentment center by normal means, that is, placed in the normal mailstream

for normal processing. This option is slower than the first option, but less expensive.

[043] Figure 10 illustrates a system 1000 located at the intermediary for performing electronic bill presentment determination related to the present invention. The system may function to perform any aspect consistent with the present invention. In system 1000, mail is received by the intermediary and stacked in bin 1100 to await processing. The mail may be stacked in bin 1100 by a human or automated means. One by one, each mailpiece, for example, mailpiece 1300, is forwarded through the system and passed by scanning system 1200. Scanning system 1200 includes, for example, an optical character recognition (OCR) system, a bar code reader, a camera, a radio frequency reader, or any combination thereof. For example, in the second aspect in which PLANET codes are utilized, scanning system 1200 would include a bar code reader for reading the PLANET code, an OCR system for determining the delivery address, and a camera for imaging the mailpiece 1300.

[044] As mailpiece 1300 passes in front of scanning system 1200, information from the scanning system 1200 is sent to a processing unit 1400, which determines if mailpiece 1300 includes an identification mark. Based on the determination of processing unit 1400, and sorting algorithms that are stored in the processing unit 1400, mailpiece 1300 is sent to one of a number of sorting bins, such as 1500-1800. For example, if mailpiece 130 includes an identification mark or the delivery address and mailpiece match stored samples indicating that the mailpiece is for electronic bill presentment, processing unit 1400 may sort the mailpiece 1300 into bin 1500. From this bin, mailpiece 1300 may be redirected to an electronic bill presentment center, either through normal processing channels or through an expedited system, as described above.

[045] Processing unit 1400 may be, for example, a computer unit. In this case, processing unit 1400 may contain standard components for inputting, outputting, manipulating, and storing data. For example, processing unit 1400 may comprise a central processing unit (CPU), random access

bin, mailpiece 1300 may be redirected to an electronic bill presentment center, either through normal processing channels or through an expedited system, as described above.

[045] Processing unit 1400 may be, for example, a computer unit. In this case, processing unit 1400 may contain standard components for inputting, outputting, manipulating, and storing data. For example, processing unit 1400 may comprise a central processing unit (CPU), random access memory (RAM), video card, sound card, magnetic storage devices, optical storage devices, input/output (I/O) terminals, and a network interface card (NIC) (all not shown). Computer unit 1412 may optionally be connected to a printer (not shown) through the I/O terminals. Examples of the I/O terminals to which the printer may be connected are parallel, serial, universal serial bus, and IEEE 1394.

[046] Also, processing unit 1400 may be connected to the other computing units through a network (not shown). For example, the network may be a local area network (LAN) or wide area network (WAN), such as the Internet, or wireless network.

[047] Processing unit 1400 is configured to store customer information, retrieve customer information, scan mailpieces for delivery address and identification marks, match mailpieces, and control scanning system 1300. The process may be configured in the form of a process created using various programming languages or software suites. For example, the delivery address matching may be a program written in the JavaTM programming language, hypertext markup language, or C programming language. Processing unit 1400 also contains a database for storing customer information and imaged mailpieces. The database may be, for example, a commercially available database or a customized version, programmed in one of the above mentioned computer languages.

[048] In the above methods and systems, the intermediary must be able to intercept the bills transmitted from the biller to the customer. The most advantageous example of an intermediary would be a department of a mail

service provider, such as the United States Postal Service. In such an example, the service provider would have direct access to the correspondence, i.e., mail transmitted from the biller to the customer. In this case, the biller could send the bill to the customer as normal mail. The customer may register for electronic bill presentment with the mail service provider by providing customer information, such as a delivery address and sample envelope and bill. The mail service provider would then determine if mailpiece was to be flagged for electronic bill presentment during the normal course of mail processing and forward the flagged mail to a electronic bill presentment center.

[049] For instance, the mail service provider receives mail at a post office. The mail is routed through a standard sorting machine, such as a Flat Sorting Machine. The sorting machine may be adapted to compare received mail to the delivery address and envelopes stored in a database as described in the first aspect of the present invention. Likewise, the sorting machine may be adapted to scan for facing identification marks and delivery addresses as described in the second aspect consistent with the present invention. The mail is then sorted depending on whether an identification mark is present or if the address and scanned envelope are stored in the database.

[050] Other embodiments of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with a true scope and spirit of the invention being indicated by the following claims.

WHAT IS CLAIMED IS:

1. A method for electronic bill presentment, comprising:
 - receiving registration information from a customer including customer identification information and biller information;
 - associating the biller information with an identification mark;
 - storing the registration information and associated information in a database;
 - receiving a mailpiece;
 - determining if the mailpiece includes an identification mark associated with stored biller information; and
 - sorting mailpiece for electronic bill payment if the identification mark associated with stored biller information.
2. The method of claim 1, wherein determining if the mailpiece includes an identification mark comprises:
 - scanning mail piece for the identification mark.
3. The method of claim 2, wherein the identification mark includes at least one of a PLANET CODE™, a POSTNET code, a radio frequency identification tag, an information based indicia marking, or a bar code.
4. The method of claim 1, wherein determining if the mailpiece includes an identification mark comprises:
 - obtaining an address from the mailpiece;
 - determining if the address matches the customer identification information stored in the database;
 - imaging the mailpiece based on the determination;

comparing the image with an image of a sample mailpiece
stored in the database; and
identifying the mailpiece based on the comparison.

5. The method according to claim 1, wherein the registration information further includes instructions for handling mail that does not have an identification mark.
6. A method of identifying a mailpiece in an electronic bill presentment system comprising the steps of:
identifying the mailpiece based on an identification mark; and
sorting the mailpiece based on the identification mark.
7. The method of claim 6, wherein the step of identifying the mailpiece comprises the steps of:
scanning the mailpiece for the identification mark.
8. The method of claim 7, wherein the identification mark includes one or more of a PLANET CODE™, a POSTNET code, a radio frequency identification tag, an information based indicia marking, or a bar code.
9. The method of claim 6, wherein the step of identifying the mail piece comprises the steps of:
obtaining an address from the mail piece;
determining if the address is included in a database of users;
imaging the mailpiece based on the determination;
comparing the image of the mailpiece to a stored image of a mail piece; and
identifying the mailpiece based on the comparison.
10. A system for electronic bill presentment, comprising:

means for receiving registration information from a customer including customer identification information and biller information;

means for associating the biller information with an identification mark;

means for storing the registration information and associated information in a database;

means for receiving a mailpiece;

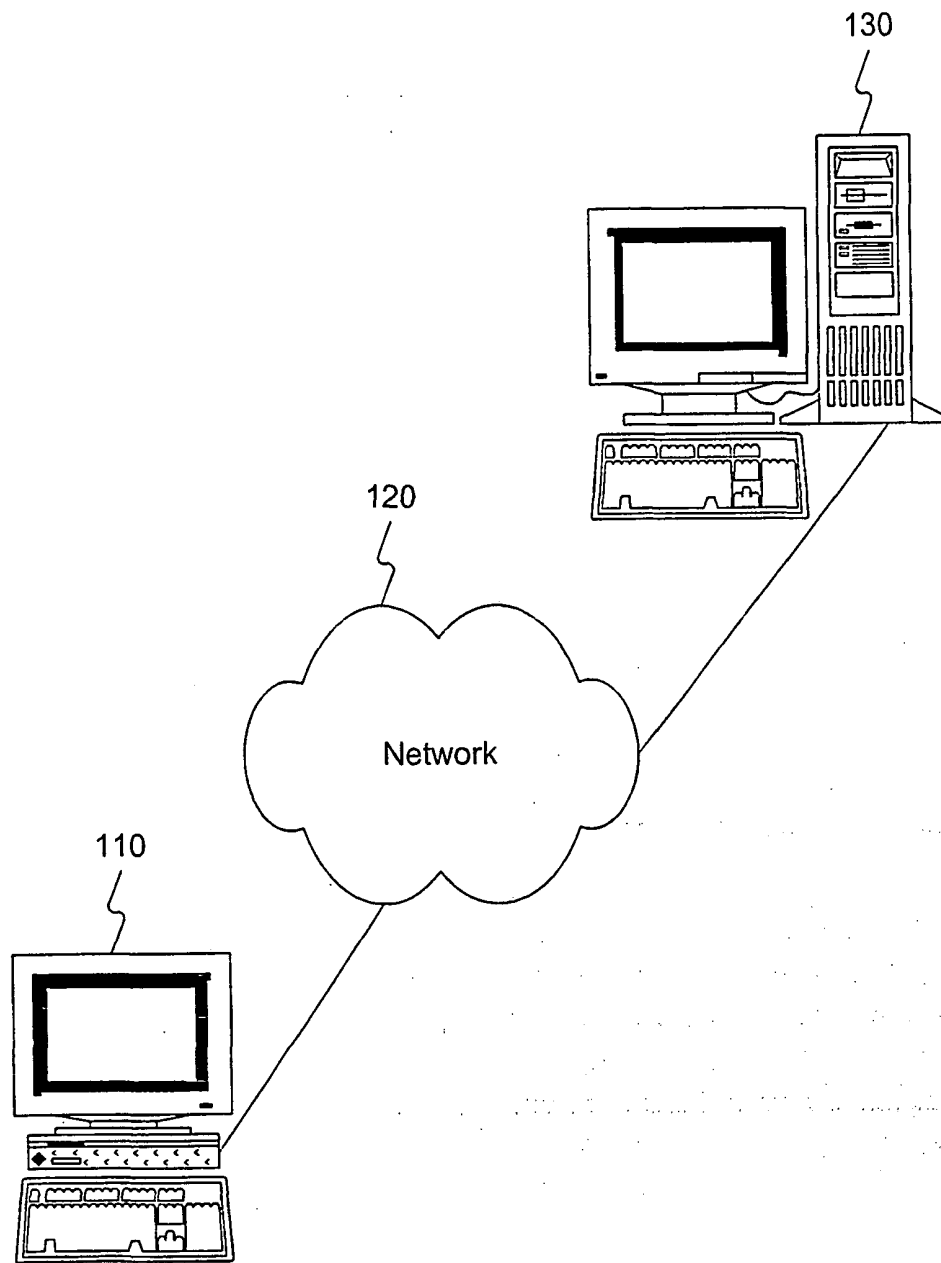
means for determining if the mailpiece includes an identification mark associated with stored biller information; and

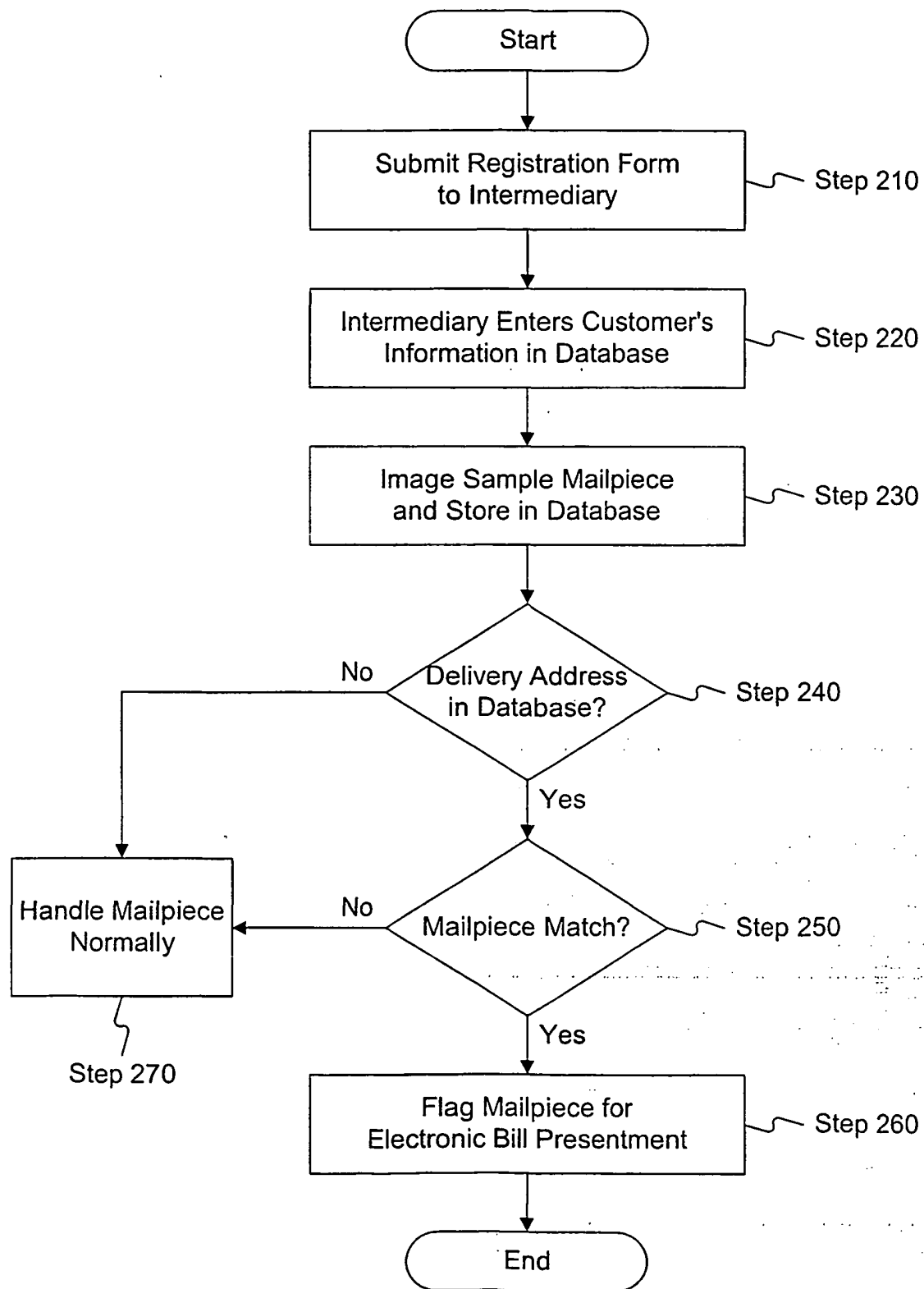
means for sorting mailpiece for electronic bill payment if the identification mark associated with stored biller information.

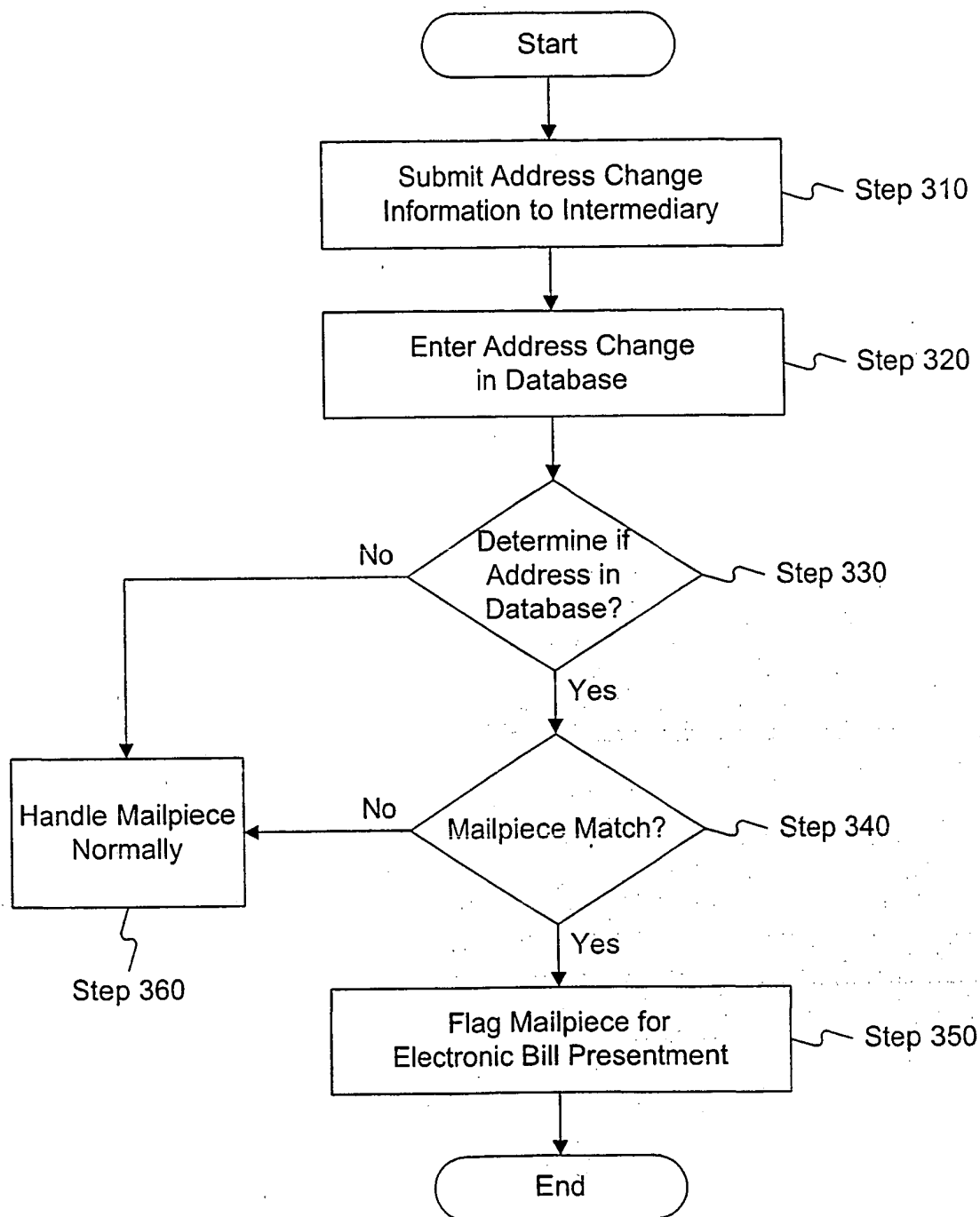
11. The system of claim 10, wherein determining means comprises:
means for scanning mail piece for the identification mark.
12. The system of claim 11, wherein the identification mark includes one or more of a PLANET CODE™, a POSTNET code, a radio frequency identification tag, an information based indicia marking, or a bar code.
13. The system of claim 10, wherein determining means comprises:
means for obtaining an address from the mailpiece;
means for determining if the address matches the customer identification information stored in the database;
means for imaging the mailpiece based on the determination;
means for comparing the image with an image of a sample mailpiece stored in the database; and
means for identifying the mailpiece based on the comparison

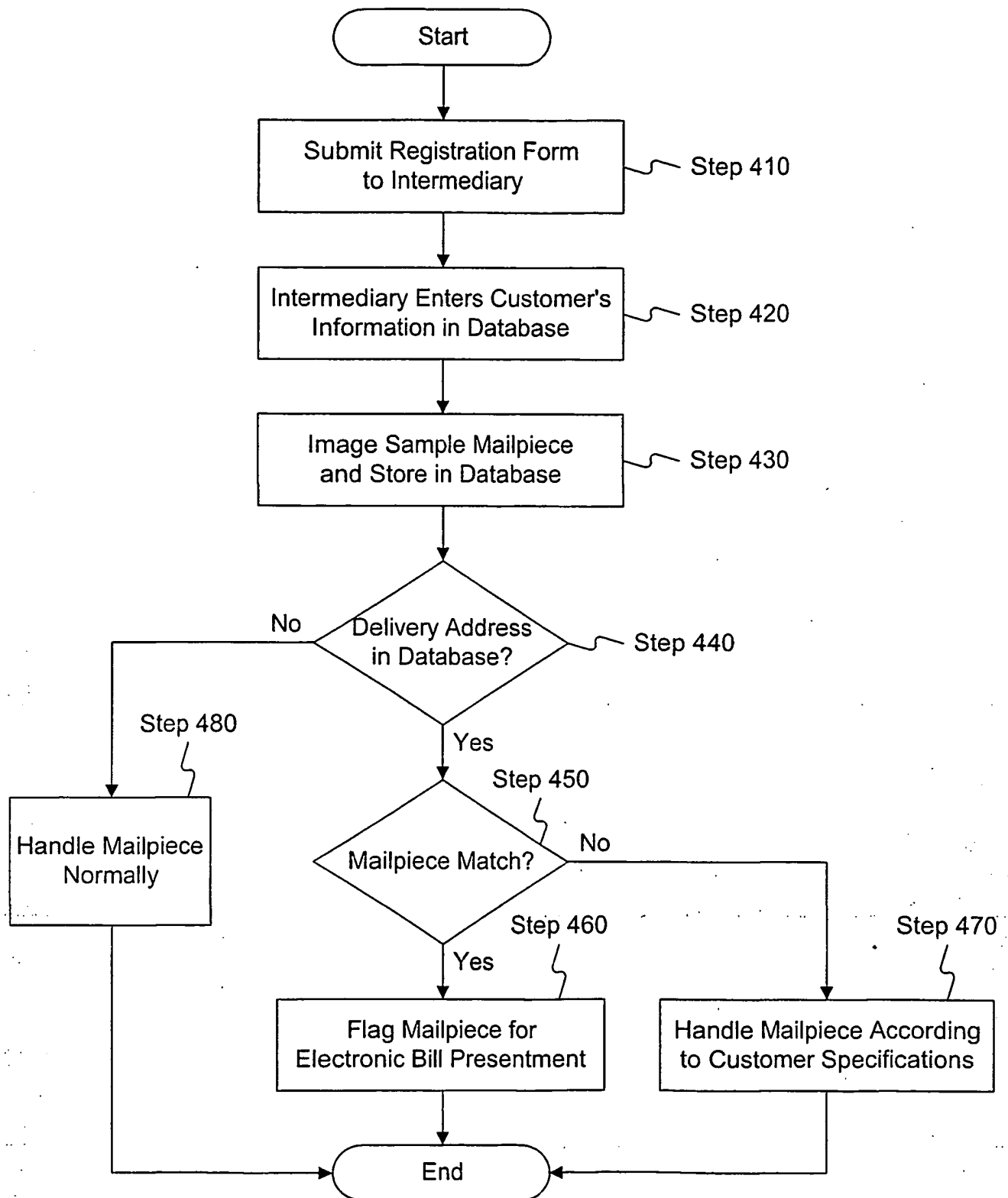
14. A system for identifying a mailpiece in an electronic bill presentment system comprising:
means for identifying the mailpiece based on an identification mark; and
means for sorting the mailpiece based on the identification mark.
15. The system of claim 14, wherein identifying means comprises:
means for scanning the mailpiece for the identification mark.
16. The system of claim 15, wherein the identification mark includes at least one of a PLANET CODE™, a POSTNET code, a radio frequency identification tag, an information based indicia marking, or a bar code.
17. The system of claim 14, wherein identifying means comprises:
means for obtaining an address from the mailpiece;
means for determining if the address is included in a database of users;
means for imaging the mailpiece based on the determination;
means for comparing the image of the mailpiece to a stored image of a mailpiece; and
means for identifying the mailpiece based on the comparison.
18. A system for performing electronic bill presentment, comprising:
a first bin for receiving mailpieces;
a scanning unit for scanning the mailpieces for an identification mark;
a processing unit for determining if the mailpiece includes an identification mark associated with stored biller information; and
a second bin for receiving mailpieces which include the identification mark which.

19. The system of claim 18, wherein the scanning unit includes at least one of a form recognition scanner, optical character recognition scanner, or a radio frequency scanner.

**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

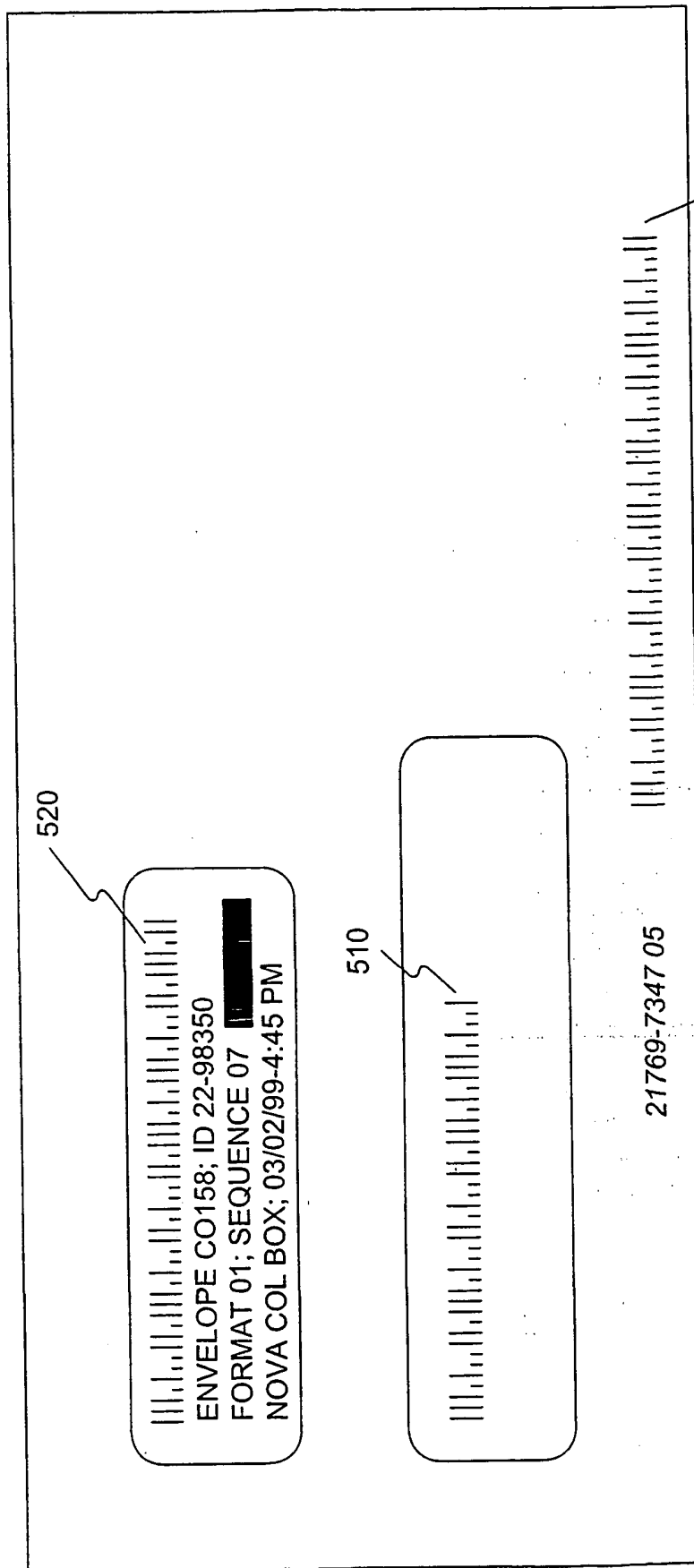
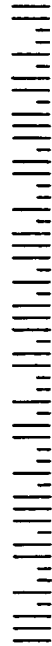
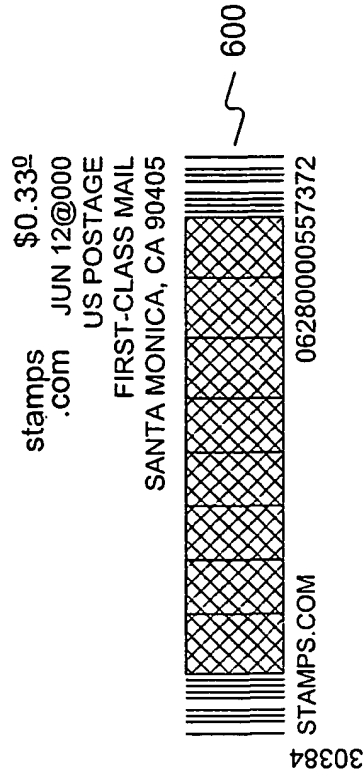


Figure 5



JOHN DOE 100
 COMPANY 100
 817 2ND ST APT 137
 SANTA MONICA CA 90403-1040

Figure 6

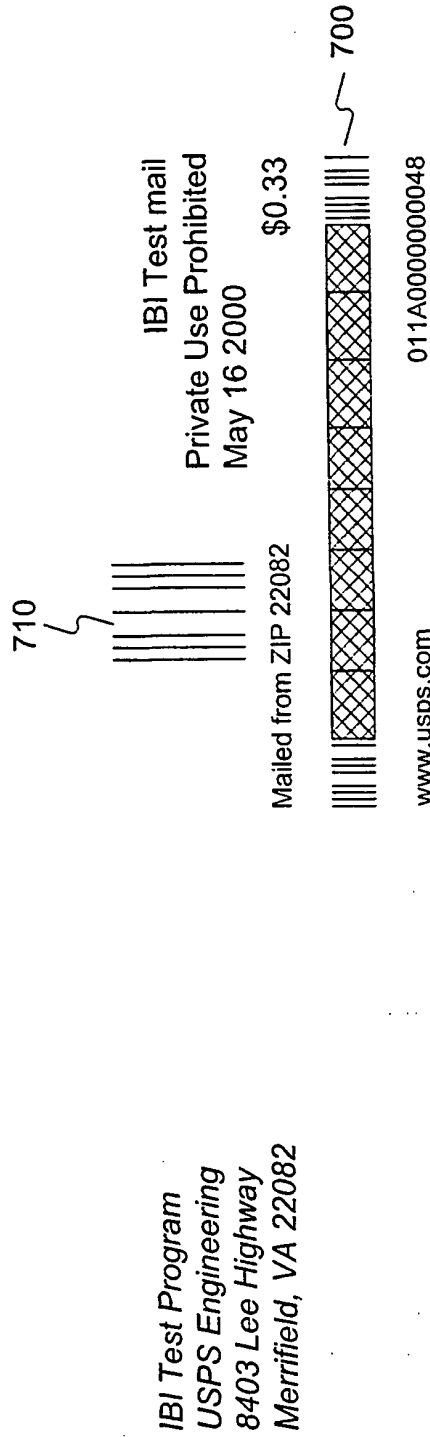
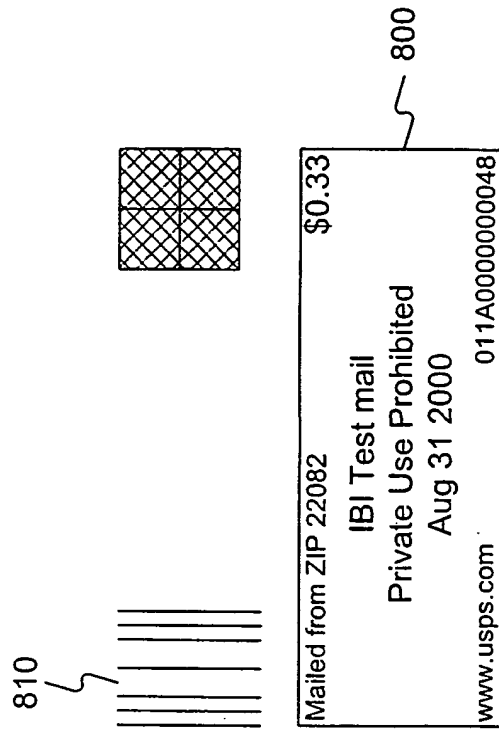


Figure 7



IBI Test Program
USPS Engineering
8403 Lee Highway
Merrifield, VA 22082

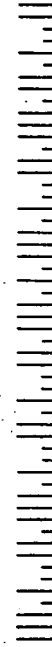
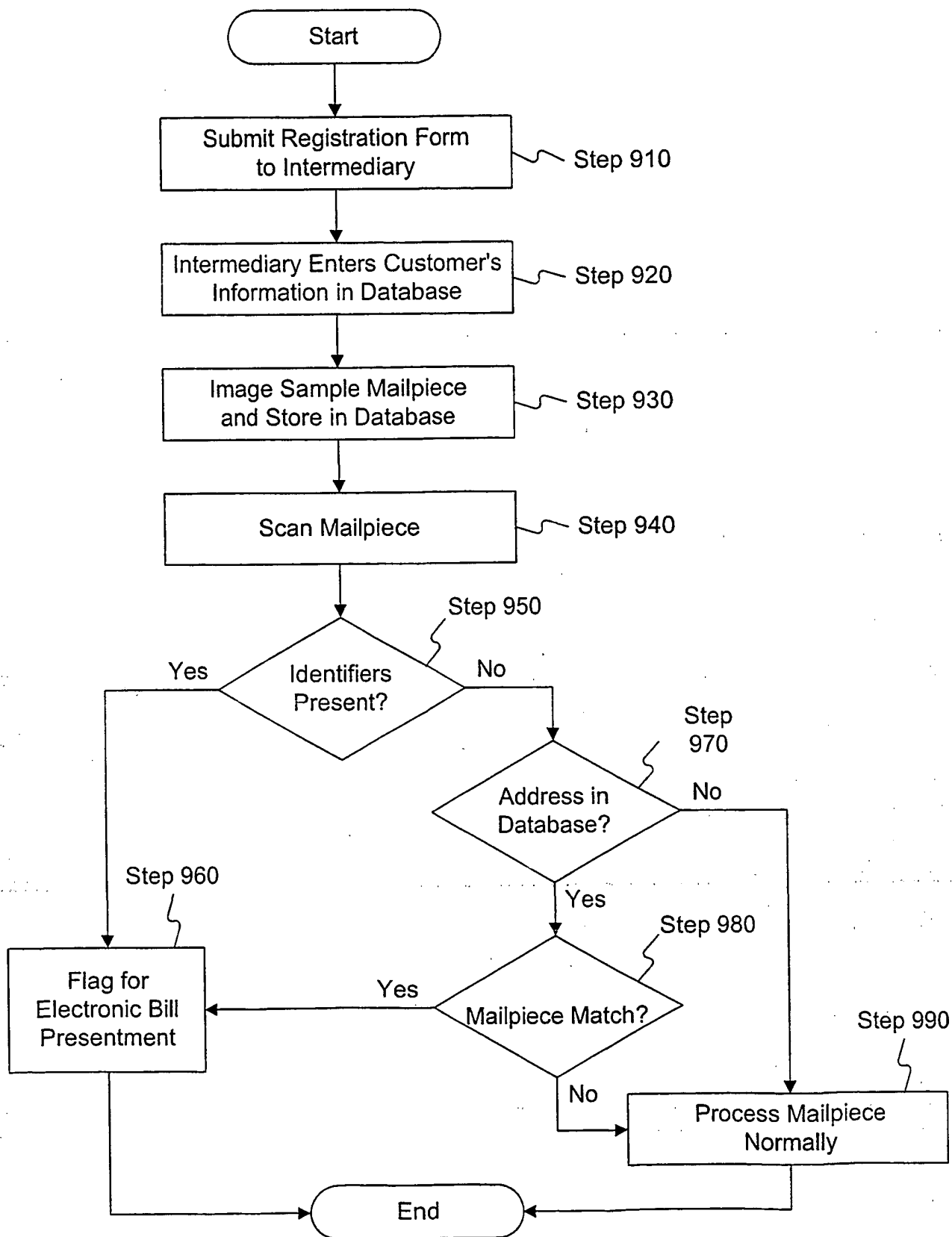
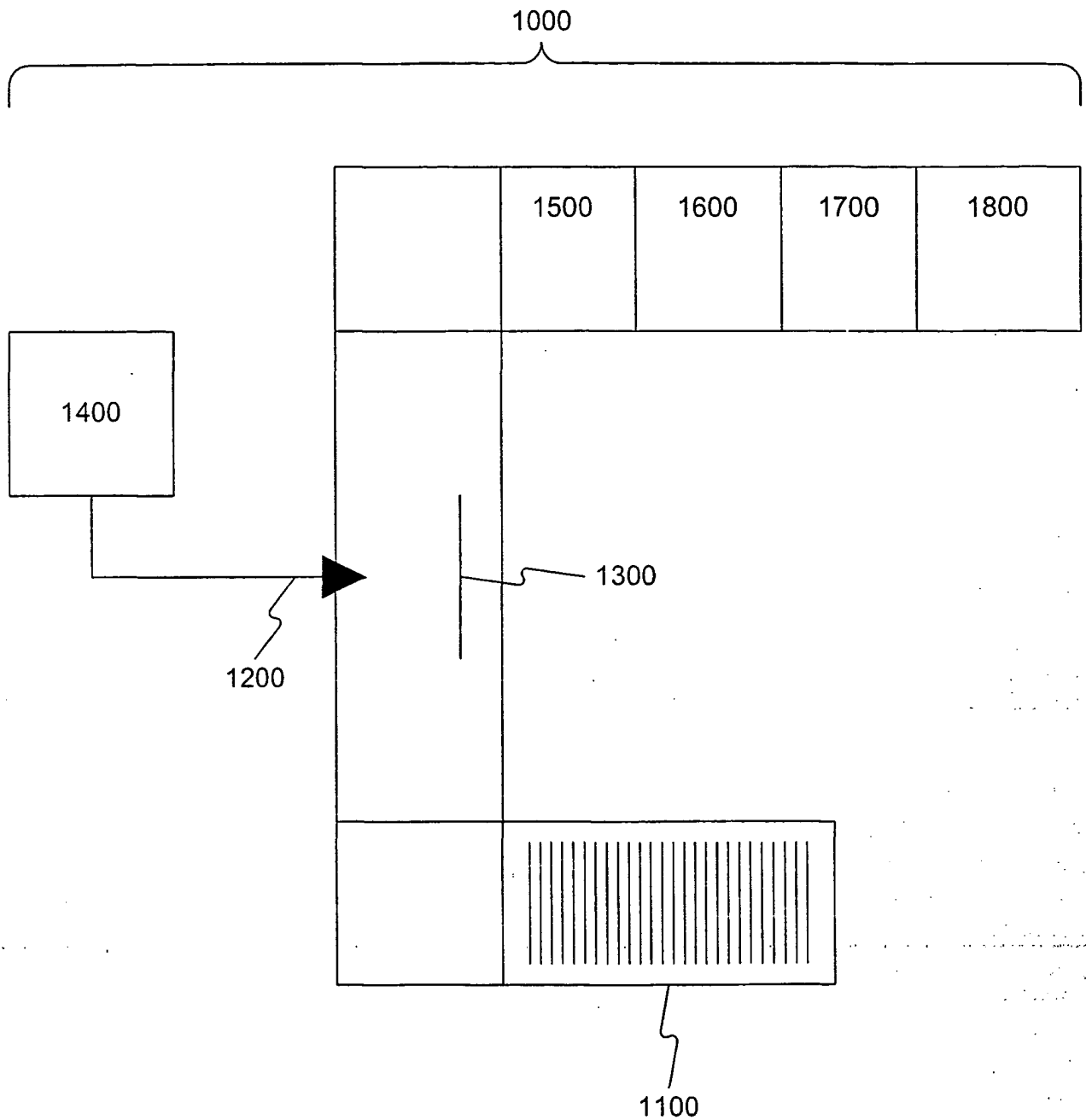


Figure 8

**Figure 9**

**Figure 10**

THIS PAGE BLANK (USPTO)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 October 2002 (17.10.2002)

PCT

(10) International Publication Number
WO 02/082212 A3

(51) International Patent Classification?: **G06F 17/60**

(21) International Application Number: **PCT/US02/10308**

(22) International Filing Date: **3 April 2002 (03.04.2002)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
60/280,737 3 April 2001 (03.04.2001) US

(71) Applicant (for all designated States except US): **UNITED STATES POSTAL SERVICE [US/US]: 475 L'Enfant Plaza, S.W., Washington, DC 20260-1135 (US).**

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KUEBERT, Edward, J. [US/US]: 7438 Cedard Run Drive, Warrenton, VA 20187-2248 (US). PENSABENE, Phillip, A. [US/US]:**

3801 Hollyberry Drive, Huntingtown, MD 20369-4304 (US). **PENN, Maria, C. [US/US]: 13 East Windsor Avenue, Alexandria, VA 22301 (US). RAY, Christine, R., L. [US/US]: 2019 34th Street, S.E., Washington, DC 20020 (US).**

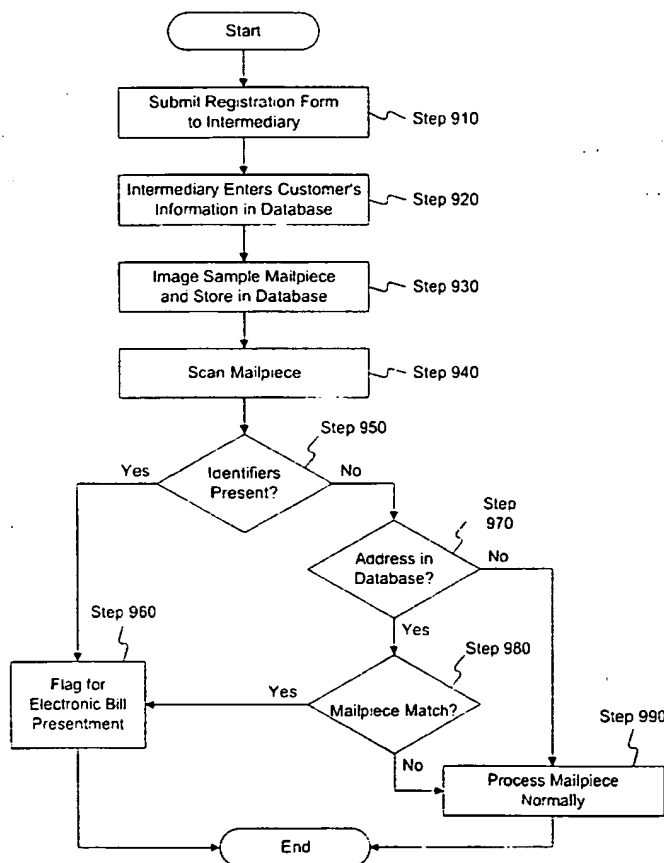
(74) Agents: **GARRETT, Arthur, S. et al.: Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., 1300 I Street, N.W., Washington, DC 20005-3315 (US).**

(81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.**

(84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),**

[Continued on next page]

(54) Title: **SYSTEMS AND METHODS FOR CAPTURING MAIL FOR ELECTRONIC BILL PRESENTMENT**



(57) Abstract: A system and method of identifying a mailpiece (230) in an electronic bill presentment system is provided. The system identifies the mailpiece based on an identification mark. A method of identifying the mailpiece comprises (450) the steps of scanning the mailpiece for the identification mark (940). The system receives registration information (210, 410) from a customer and sorts the mailpiece based on the identification mark (950).

WO 02/082212 A3



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

(88) Date of publication of the international search report:
3 July 2003

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/10308

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60
US CL : 705/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/1,18,23,27,34,40,401

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Mailpiece, bill presentment, electronic billing, bill identification, bill recognition, encryption.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,586,036 A (PINTSOV) 17 December 1996 (17.12.1996), see entire document.	1-20
Y	US 5,917,925 A (MOORE) 29 June 1999 (29.06.1999), see entire document.	1-20
Y	US 6,032,133 A (HILT et al) 29 February 2000 (29.02.2000), see entire document.	1-20
Y	US 6,078,907 A (LAMM) 20 June 2000 (20.06.2000) see entire document.	1-20
Y,P	US 6,285,991 B1 (POWAR) 04 September 2001 (04.09.2001), see entire document.	1-20

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

23 August 2002 (23.08.2002)

Date of mailing of the international search report

23 FEB 2003

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Emanuel T. Voeltz

Telephone No. 703-305-3900

INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 6,292,789 B1 (SCHUTZER) 18 September 2001 (18.09.2001), see entire document.	1-20
Y,E	US 2002/0052840 A1 (KITCHEN et al) 02 May 2002 (02.05.2002), see entire document.	1-20
Y,E	US 2002/0059139 A1 (EVANS) 16 May 2002 (16.05.2002), see entire document.	1-20
Y,E	US 2002/0087469 A1 (GANESAN et al) 04 June 2002 (04.06.2002), see entire document.	1-20

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

THIS PAGE BLANK (USPTO)